FINE
TH
151
.H36
1903

Cornell University Library

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

http://www.archive.org/details/cu31924102176652

CORNELL
UNIVERSITY
LIBRARY

FINE ARTS LIBRARY

HAND BOOK
OF
JOIST HANGERS
FOR
ARCHITECTS

JAN 21 18
LIBRARY

DATE DUE

GAYLORD

PRINTED IN U.S.A.

CORNELL UNIVERSITY LIBRARY
3 1924 102 176 652

"CLEVELAND" STEEL

JOIST, WALL and TIMBER HANGERS

(Patented)

SOLE MAKERS

THE COLUMBIAN HARDWARE COMPANY

COE AND HAMILTON STREETS

CLEVELAND OHIO USA

NEW YORK CITY
14 WARREN STREET

BALTIMORE
14 W GERMAN ST.

STOCK CARRIED AT
NEW YORK BRANCH.

CHICAGO
83 MICHIGAN AVENUE

SAN FRANCISCO
132 MARKET ST.

Copyright, 1903, by The Columbian Hardware Co, Cleveland, Ohio.

FINE
TH
151
H36
1903

GREAT CARE

has been given to the preparation of the

TABLES HEREIN CONTAINED.

That they will be extensively used is the hope of the Publishers, and also that your specifications for

JOIST AND TIMBER HANGERS

will read

"CLEVELAND"

MADE BY THE COLUMBIAN HARDWARE CO.

CLEVELAND, OHIO.

1903

CORNELL UNIVERSITY LIBRARIES ★ N.Y.

BRIDGE ENGINEER
WILBUR J. WATSON,
ASSOC. M. AM. SOC. C. E.

THE OSBORN ENGINEERING CO.
(INCORPORATED)
OSBORN BUILDING CLEVELAND

JOIST AND TIMBER TABLES.

Compiled by The Osborn Engineering Company.

The object of these tables is to enable architects and engineers to select the proper size of timber joist which should be used for a given load per square foot of floor area, a given spacing of the joists, and length of same. The sizes of timbers given in these tables will not deflect more than one-three-hundred-and-sixtieth ($\frac{1}{360}$) of their length. Following the size of timber which should be used is the number of the hanger which should be used for that size timber. In most cases, two sizes of joists or timbers are given, either of which may be used.

The tables are based upon the use of white pine; see table of equivalent sizes for yellow pine.

In order to use the tables, it is necessary to know:

1st. The load per square foot on the floor, including the weight of the floor.

2nd. The spacing of the joists or timbers, center to center.

3rd. The span length of joists or timbers.

In proportioning the hangers, great care has been taken to provide sufficient bearing for the timbers, in order to prevent crushing of the fibers, and in all cases the strength of the hangers themselves greatly exceeds the strength of the beam which they are designed to carry.

The Osborn Engineering Company.

Per. Wilbur J. Watson

TABLE OF EQUIVALENTS.

2x8	Yellow	Pine	or	White	Oak	is	equivalent	to	2x10	White	or	Norway	Pine.
2x10	"	"	"	"	"	"	"	"	2x12	"	"	"	"
2x12	"	"	"	"	"	"	"	"	2x14	"	"	"	"
2x14	"	"	"	"	"	"	"	"	2x16	"	"	"	"
2x6	"	"	"	"	"	"	"	"	2½x6	"	"	"	"
2x8	"	"	"	"	"	"	"	"	2½x8	"	"	"	"
2x10	"	"	"	"	"	"	"	"	2½x10	"	"	"	"
2x12	"	"	"	"	"	"	"	"	2½x12	"	"	"	"
2x14	"	"	"	"	"	"	"	"	2½x14	"	"	"	"
2x16	"	"	"	"	"	"	"	"	2½x16	"	"	"	"
2½x6	"	"	"	"	"	"	"	"	3x6	"	"	"	"
2½x8	"	"	"	"	"	"	"	"	3x8	"	"	"	"
2½x10	"	"	"	"	"	"	"	"	3x10	"	"	"	"
2½x12	"	"	"	"	"	"	"	"	3x12	"	"	"	"
2½x14	"	"	"	"	"	"	"	"	3x14	"	"	"	"
2½x16	"	"	"	"	"	"	"	"	3x16	"	"	"	"
3x6	"	"	"	"	"	"	"	"	4x6	"	"	"	"
3x8	"	"	"	"	"	"	"	"	4x8	"	"	"	"
3x10	"	"	"	"	"	"	"	"	4x10	"	"	"	"
3x12	"	"	"	"	"	"	"	"	4x12	"	"	"	"
3x14	"	"	"	"	"	"	"	"	4x14	"	"	"	"
3x16	"	"	"	"	"	"	"	"	4x16	"	"	"	"
4x8	"	"	"	"	"	"	"	"	5x8	"	"	"	"

4x10	"	"	"	"	"	"	"	"	5x10	"	"	"
4x12	"	"	"	"	"	"	"	"	5x12	"	"	"
4x14	"	"	"	"	"	"	"		5x14	"	"	"
4x16	"	"	"	"	"	"	"	"	5x16	"	"	"
5x8	"	"	"	"	"	"	"	"	6x8	"	"	"
5x10	"	"	"	"	"	"	"	"	6x10	"	"	"
5x12	"	"	"	"	"	"	"	"	6x12	"	"	"
5x14	"	"	"	"	"	"	"	"	6x14	"	"	"
5x16	"	"	"	"	"	"	"	"	6x16	"	"	"
6x8	"	"	"	"	"	"	"	"	8x8	"	"	"
6x10	"	"	"	"	"	"	"	"	8x10	"	"	"
6x12	"	"	"	"	"	"	"	"	8x12	"	"	"
6x14	"	"	"	"	"	"	"	"	8x14	"	"	"
6x16	"	"	"	"	"	"	"	"	8x16	"	"	"
8x10	"	"	"	"	"	"	"	"	10x10	"	"	"
8x12	"	"	"	"	"	"	"	"	10x12	"	"	"
8x14	"	"	"	"	"	"	"	"	10x14	"	"	"
8x16	"	"	"	"	"	"	"	"	10x16	"	"	"
10x12	"	"	"	"	"	"	"	"	12x12	"	"	"
10x14	"	"	"	"	"	"	"	"	12x14	"	"	"
10x16	"	"	"	"	"	"	"	"	12x16	"	"	"
10x18	"	"	"	"	"	"	"	"	12x18	"	"	"
12x14	"	"	"	"	"	"	"	"	14x14	"	"	"
12x16	"	"	"	"	"	"	"	"	14x16	"	"	"
12x18	"	"	"	"	"	"	"	"	14x18	"	"	"

Joist table No. 1

Total load = 40 lbs. per sq. ft.

Joists given in this table will not deflect more than 1/360 of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x8 2½x6	2 16	2x8 3x6	2 29	2x8 3x6	2 29	2x8 4x6	2 36	2x8 4x6	2 36	2x8	2	2x8	2
10	2x8	2	2x10 2½x8	3 17	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x10 4x8	3 37
12	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 3x10	5 31	2x12 4x10	5 38
14	2x12 3x10	5 31	2x12 4x10	5 38	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 3x12	9 32
16	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 3x12	9 32	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2x16 3x14	13 33
18	2x14 4x12	9 39	2x16 2½x14	13 23	2x16 4x14	13 40	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16 4x14	34 40
20	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41
22	2½x16 4x14	26 40	4x16	41	4x16	41	4x16	41	4x16	41				
24	4x16	41	4x16	41										

Joist table No. 2

Total load = 45 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36	Size of Joist	No. of Hangers required See page 36
8	2×8	2	2×8 3×6	2 29	2×8 4×6	2 36	2×8 4×6	2 36	2×8	2	2×8	2	2×10 2½×8	3 17
10	2×10 2½×8	3 17	2×10 2½×8	3 17	2×10 3×8	3 30	2×10 4×8	3 37	2×10 4×8	3 37	2×10 4×8	3 37	2×12 2½×8	5 17
12	2×10 4×8	3 37	2×12 2½×10	5 18	2×12 2½×10	5 18	2×12 3×10	5 31	2×12 3×10	5 31	2×12 4×10	5 38	2×14 2½×12	9 19
14	2×12 3×10	5 31	2×12 4×10	5 38	2×14 2½×12	9 19	2×14 3×12	9 32	2×14 3×12	9 32	2×14 4×12	9 39	2×16 2½×14	13 23
16	2×14 2½×12	9 19	2×14 3×12	9 32	2×16 2½×14	13 23	2×16 2½×14	13 23	2×16 3×14	13 33	2×16 3×14	13 33	2½×16 4×14	26 40
18	2×16 2½×14	13 23	2×16 3×14	13 33	2×16 3×14	13 33	2½×16 4×14	26 40	2½×16 4×14	26 40	3×16	34	3×16	34
20	2½×16 4×14	26 40	2½×16 4×14	26 40	3×16	34	4×16	41	4×16	41	4×16	41		
22	3×16	34	4×16	41	4×16	41								
24	4×16	41												

Joist table No 3

Total load = 50 lbs. per sq. ft.

Joists given in this table will not deflect more than 1/360 of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist.	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x8 3x6	2 29	2x8 4x6	2 36	2x8 4x6	2 36	2x8	2	2x8	2	2x10 2½x8	3 17	2x10 2½x8	3 17
10	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18
12	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 3x10	5 31	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19
14	2x12 3x10	5 31	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 4x12	9 39	2x16 2½x14	13 23	2x16 2½x14	13 23
16	2x14 3x12	9 32	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40
18	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41
20	2½x16 4x14	26 40	3x16 4x14	34 40	4x16	41	4x16	41	4x16	41				
22	3x16	34	4x16	41										
24	4x16	41												

Joist table No. 4

Total load = 60 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36	Size of Joist	No. of Hanger required See page 36
8	2x8 4x6	2 36	2x8 4x6	2 36	2x8	2	2x10 2½x8	3 17	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 3x8	3 30
10	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 3x10	5 31
12	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 3x12	9 32
14	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 3x12	9 32	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2x16 3x14	13 33
16	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16 4x14	34 40	3x16	34
18	2x16 3x14	13 33	2½x16 4x14	26 40	3x16 4x14	34 40	3x16	34	4x16	41	4x16	41	4x16	41
20	3x16	34	4x16	41	4x16	41								
22	4x16	41												
24														

Joist table No. 5

Total load = 70 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x8 4x6	2 36	2x8	2	2x10 2½x8	3 17	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 3x8	3 30	2x10 4x8	3 37
10	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 3x10	5 31	2x12 4x10	5 38
12	2x12 3x10	5 31	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 3x12	9 32	2x16 2½x14	13 23
14	2x14 3x12	9 32	2x14 4x12	9 39	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40
16	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16	34	3x16	34	4x16	41
18	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41				
20	4x16	41	4x16	41										

Joist table No. 6

Total load = 80 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x8	2	2x10 2½x8	3 17	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x10 4x8	3 37
10	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 4x10	5 38	2x12 4x10	5 38	2x14 2½x12	9 19
12	2x12 3x10	5 31	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 4x12	9 39	2x16 2½x14	13 23	2x16 2½x14	13 23
14	2x14 3x12	9 32	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16 4x14	34 40
16	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41
18	3x16 4x14	34 40	4x16	41	4x16	41	4x16	41						
20	4x16	41												

Joist table No. 7

Total load = 90 lbs per sq. ft.

Joists given in this table will not deflect more than 360 of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x10 2½x8	3 17	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18
10	2x12 2½x10	5 18	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 2½x12	9 19
12	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 3x12	9 32	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	14 33
14	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x12	13 32	2½x16 4x14	26 40	2½x16 4x14	26 40	3x16 4x14	34 40	3x16	34
16	2x16 4x14	13 40	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41		
18	3x16	34	4x16	41	4x16	41								

Joist table No. 8

Total load = 100 lbs. per sq. ft.

Joists given in this table will not deflect more than 1/360 of their length

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x10 2½x8	3 17	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	5 18
10	2x12 2½x10	5 18	2x12 3x10	5 31	2x12 4x10	5 38	2x14 2½x12	9 19	2x14 2½x12	9 19	2x14 2½x12	10 19	2x14 3x12	10 32
12	2x14 2½x12	9 19	2x14 3x12	9 32	2x14 4x12	9 39	2x16 2½x14	13 23	2x16 2½x14	13 23	2x16 3x14	14 33	2x16 3x14	15 33
14	2x16 2½x14	13 23	2x16 3x14	13 33	2½x16 4x14	26 40	2½x16 4x14	27 40	3x16 4x14	34 40	3x16	34	4x16	41
16	2½x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41				
18	4x16	41	4x16	41										

Joist table No. 9

Total load = 125 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x10 3x8	3 30	2x10 4x8	3 37	2x10 4x8	3 37	2x12 2½x10	5 18	2x12 2½x10	6 18	2x12 3x10	7 31	2x12 3x10	7 31
10	2x12 3x10	5 31	2x12 4x10	5 38	2x14 4x10	9 38	2x14 3x12	10 32	2x14 3x12	11 32	2x14 4x12	12 39	2½x14 4x12	23 39
12	2x14 3x12	9 32	2½x14 4x12	23 39	2½x14 4x12	23 39	2x16 3x14	15 33	2½x16 4x14	26 40	2½x16 4x14	27 40	2½x16 4x14	28 40
14	2x16 3x14	13 33	2½x16 4x14	26 40	3x16 4x14	34 40	4x16	41	4x16	41	4x16	41	4x16	41
16	3x16	34	4x16	41	4x16	41								

Joist table No. 10

Total load = 150 lbs. per sq. ft.

Joists given in this table will not deflect more than $\frac{1}{360}$ of their length.

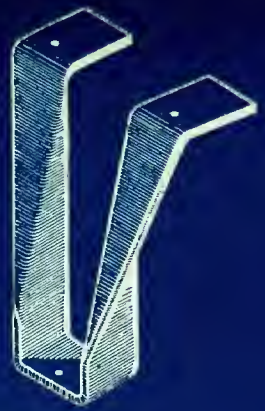
Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x10 4x8	3 37	2x12 $2\frac{1}{2}$x10	5 18	2x12 $2\frac{1}{2}$x10	5 18	2x12 3x10	6 31	2x12 3x10	7 31	2x12 4x10	8 38	$2\frac{1}{2}$x12 4x10	20 38
10	$2\frac{1}{2}$x12 4x10	19 38	2x14 $2\frac{1}{2}$x12	9 19	2x14 3x12	10 32	2x14 4x12	12 39	$2\frac{1}{2}$x14 4x12	23 39	$2\frac{1}{2}$x14 4x12	24 39	3x14	33
12	$2\frac{1}{2}$x14 4x12	23 39	2x16 3x14	14 33	2x16 3x14	15 33	$2\frac{1}{2}$x16 4x14	27 40	$2\frac{1}{2}$x16 4x14	28 40	3x16 4x14	35 40	3x16	35
14	$2\frac{1}{2}$x16 4x14	26 40	3x16	34	4x16	41	4x16	41	4x16	41				
16	4x16	41												

Joist table No. 11

Total load = 200 lbs. per sq. ft.

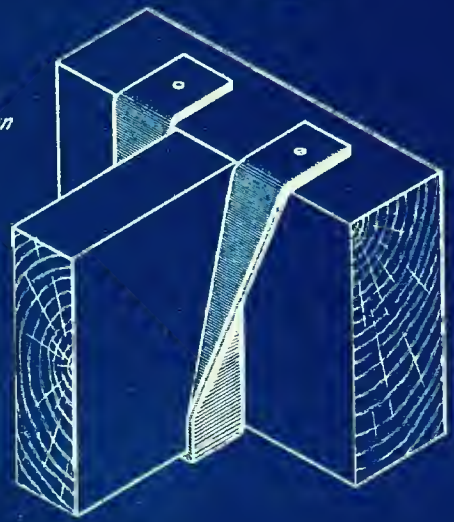
Joists given in this table will not deflect more than $\frac{1}{360}$ of their length

Span in feet	Joists spaced 12 in. apart		Joists spaced 14 in. apart		Joists spaced 16 in. apart		Joists spaced 18 in. apart		Joists spaced 20 in. apart		Joists spaced 22 in. apart		Joists spaced 24 in. apart	
	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36	Size of Joist	No. of Hangers required see page 36
8	2x12 $2\frac{1}{2}$x10	5 18	2x12 3x10	7 31	2x12 4x10	8 38	2x14 4x10	12 38	$2\frac{1}{2}$x12 4x10	21 38	$2\frac{1}{2}$x12	22	$2\frac{1}{2}$x14	25
10	2x14 3x12	10 32	2x14 4x12	12 39	$2\frac{1}{2}$x14 4x12	24 39	$2\frac{1}{2}$x16 3x14	28 33	3x14	33	3x16 4x14	35 40	3x16 4x14	35 40
12	2x16 3x14	15 33	$2\frac{1}{2}$x16 4x14	28 40	3x16 4x14	35 40	3x16	35	4x16	41	4x16	42	4x16	43
14	4x16	41	4x16	41										

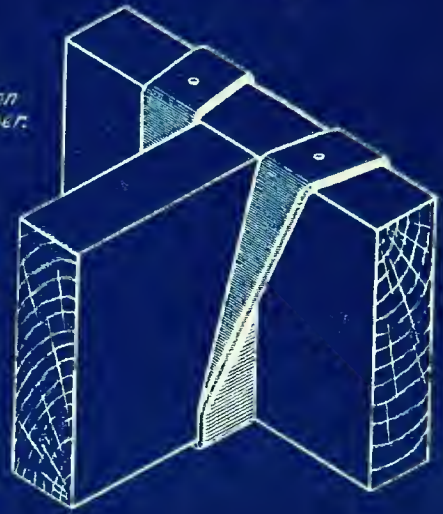


-Figure 1-
Joist Hanger
Straight Arms

-Figure 3-
Joist Hanger
Arms to Hook over Timber



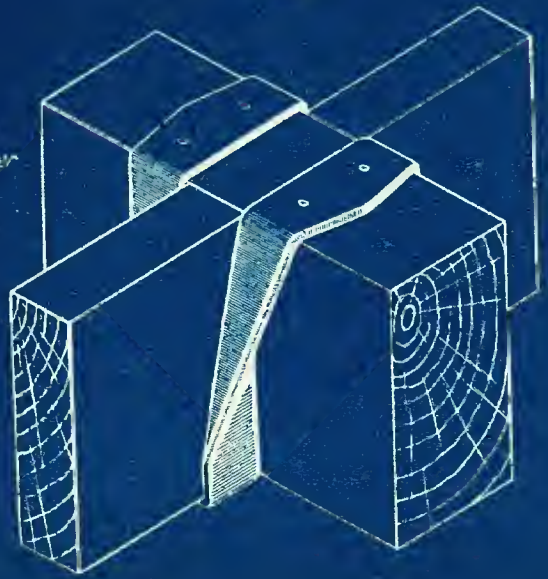
-Figure 2-
Joist Hanger in Position
Straight Arms.



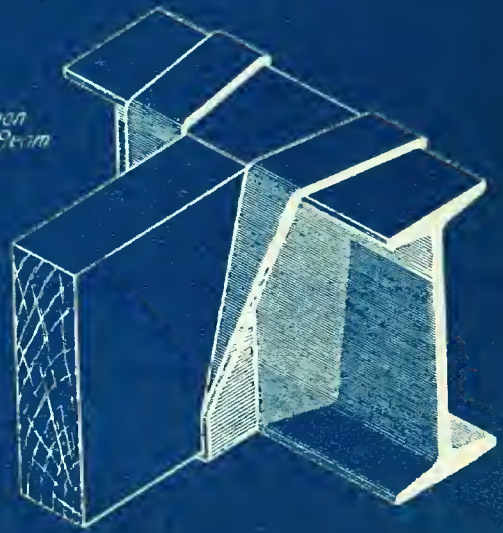
-Figure 4-
Joist Hanger in Position
Arms Hooked over Timber.

-Figure 5-
Double Joist Hangers.

-Figure 7-
Joist Hanger
To Hook over Steel I Beam

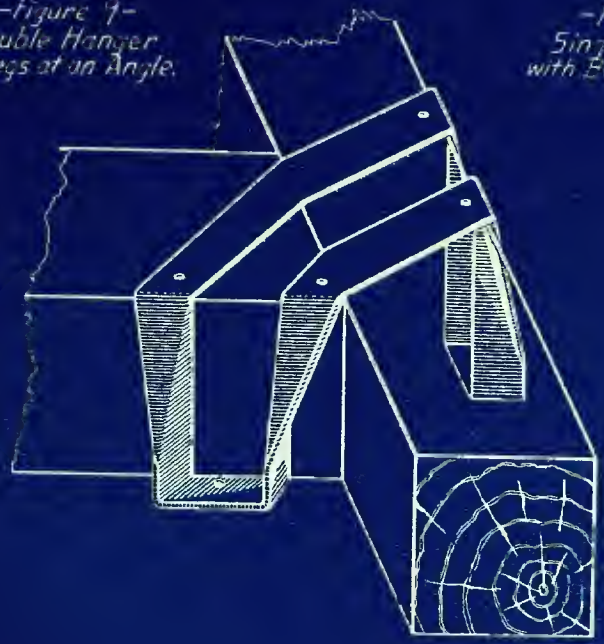


-Figure 6-
Double Joist Hanger
in Position

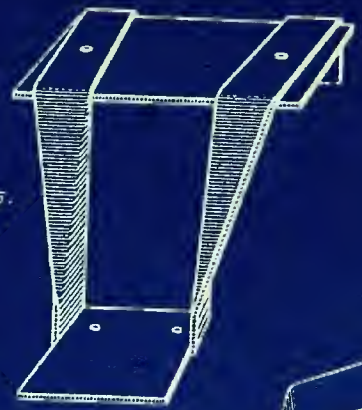


-Figure 9-
Joist Hanger in position
Hooked over Steel I Beam

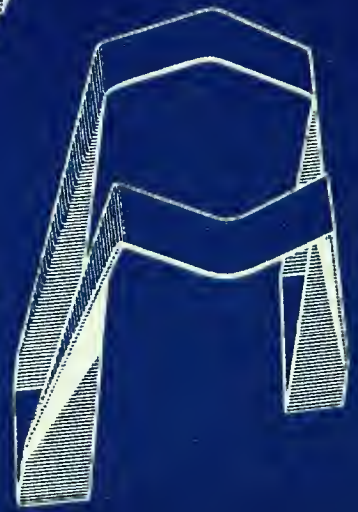
Special Hangers that we have made.



—Figure 9—
Double Hanger
with Legs at an Angle.



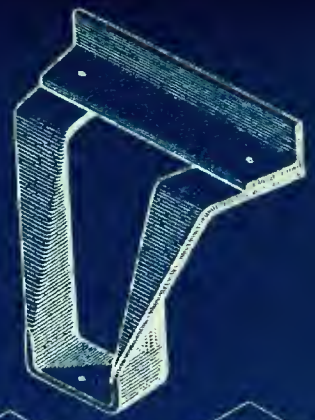
—Figure 10—
Single Hanger
with Bearing Plates.



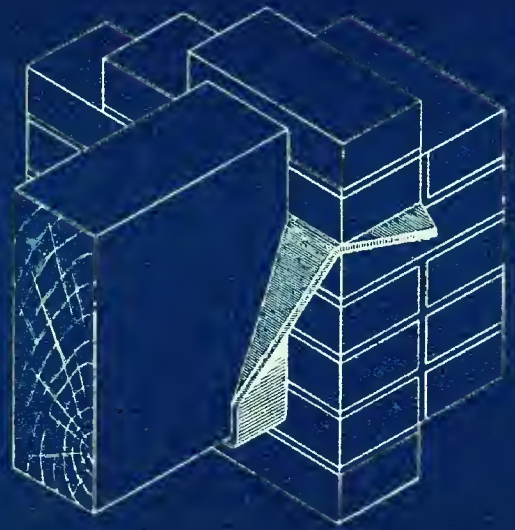
—Figure 11—
Double Hanger
with Unequal Legs.

-Figure 12-
Wall Hanger
W Without Plate-Straight Arms to Drive

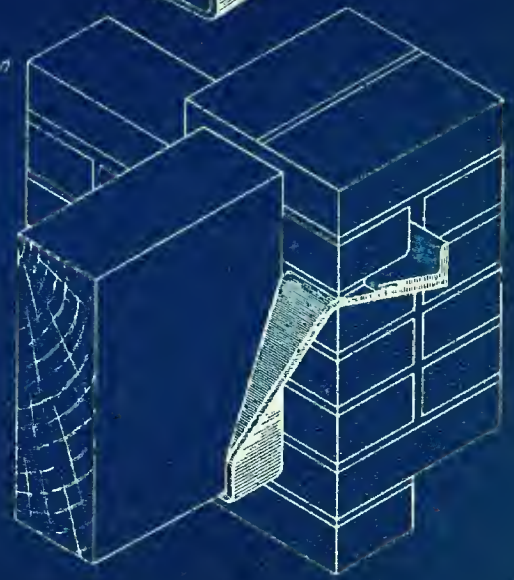
-Figure 14-
Wall Hanger
With Angle Plate



-Figure 13-
Wall Hanger in Position-
Without Plate-Straight Arms



-Figure 15-
Wall Hanger in Position
With Angle Plate.



Timber table No. 1
Total load = 40 lbs per sq ft

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37
8	5x10 8x8	102 120	5x10 8x8	102 120	5x12 6x10	103 111	5x12 8x10	103 121	5x12 8x10	103 121	5x12 10x10	103 133	6x12 10x10	112 133	5x14 8x12	105 122	5x14 8x12	105 122
10	5x12 8x10	103 121	6x12 10x10	112 133	5x14 8x12	104 122	5x14 8x12	104 122	6x14 10x12	113 134	8x14 10x12	123 134	8x14 12x12	124 152	8x14 12x12	124 152	6x16 10x14	117 138
12	5x14 8x12	104 122	6x14 10x12	113 134	8x14 12x12	123 151	6x16 10x14	116 137	8x16 10x14	128 138	8x16 12x14	128 155	8x16 12x14	128 155	10x16 14x14	145 177	10x16 14x14	145 177
14	8x14 12x12	123 151	8x16 10x14	127 137	8x16 12x14	127 154	10x16 14x14	144 176	12x16	161	12x16	162	12x18 14x16	170 184	12x18 14x16	171 185	12x18	171
16	8x16 12x14	127 154	10x16 14x14	143 175	12x16	161	12x18 14x16	169 183	12x18	170	12x18	170	14x18	192				
18	12x16 14x16	160 182	12x18 14x16	168 182	12x18	169	14x18	191										
20	12x18	168	14x18	190														
22	14x18	190																

Timber table No 2
Total load = 45 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37
8	5x10 6x10	102 111	5x12 6x10	103 111	5x12 8x10	103 121	5x12 8x10	103 121	5x12 10x10	103 133	5x14 6x12	105 112	5x14 8x12	105 122	5x14 8x12	105 122	5x14 8x12	105 122
10	5x12 10x10	103 133	5x14 8x12	104 122	5x14 8x12	104 122	6x14 10x12	113 134	8x14 10x12	123 134	8x14 12x12	124 152	6x16 8x14	117 124	6x16 10x14	118 139	8x16 10x14	129 139
12	6x14 10x12	113 134	8x14 12x12	123 151	6x16 8x14	116 123	8x16 10x14	128 124	8x16 12x14	128 155	8x16 12x14	128 155	10x16 14x14	145 177	10x16	145	12x16	163
14	6x16 10x14	116 137	8x16 12x14	127 154	10x16 14x14	144 176	10x16	144	12x16 14x16	162 184	12x18 14x16	170 184	12x18	171	12x18	171	12x18	171
16	10x16 14x16	143 183	12x16	160	12x18 14x16	169 183	12x18	170	12x18	170	14x18	192						
18	12x16	160	12x18	169	14x18	191												
20	12x18	168																

Timber table No. 3
Total load = 50 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37
8	5x10 6x10	102 111	5x12 6x10	103 111	5x12 8x10	103 121	5x12 10x10	103 133	5x14 10x10	105 133	5x14 8x12	105 122	5x14 8x12	105 122	5x14 8x12	106 122	6x14 10x12	114 134
10	6x12 10x10	112 133	5x14 8x12	104 122	6x14 10x12	113 134	6x14 10x12	113 134	8x14 12x12	124 152	6x16 8x14	117 123	6x16 10x14	118 139	8x16 10x14	129 139	8x16 12x14	129 156
12	6x14 10x12	113 134	8x14 12x12	123 151	6x16 10x14	116 137	8x16 12x14	128 155	8x16 12x14	128 155	10x16 14x14	145 177	10x16	145	12x16	163	12x16	163
14	8x16 10x14	127 137	8x16 12x14	127 154	10x16 14x14	144 175	12x16	162	12x18 14x16	170 184	12x18	171	12x18	171	14x18	192	14x18	193
16	10x16 14x14	143 175	12x16	161	12x18 14x16	169 183	12x18	170	14x18	192								
18	12x18 14x16	168 182	12x18	169	14x18	191												
20	14x18	190																

Timber Table No. 4
Total load = 60 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37	Size of Timber	No. of Hangers required See page 37
8	5x12 6x10	103 111	5x12 8x10	108 121	5x12 10x10	103 133	6x12 10x10	112 133	5x14 8x12	105 122	5x14 8x12	106 122	6x14 10x12	114 135	6x14 10x12	115 135	8x14 10x12	125 136
10	5x14 8x12	104 122	6x14 10x12	113 134	8x14 10x12	123 134	8x14 12x12	124 152	6x16 10x14	117 138	8x16 10x14	129 139	8x16 12x14	129 156	8x16 12x14	130 157	10x16 14x14	146 178
12	8x14 12x12	123 151	6x16 10x14	116 157	8x16 12x14	128 155	10x16 14x14	145 177	10x16 14x14	145 177	12x16	163	12x16	163	12x18 14x16	171 185	12x18 14x16	172 186
14	8x16 12x14	127 154	10x16	144 176	12x16	162	12x18 14x16	170 184	12x18	171	12x18	171	14x18	172				
16	12x16 14x16	164 183	12x18 14x16	169 183	12x18	170	14x18	192										
18	12x18	169	14x18	191														

Timber table No. 5
Total load = 70 lbs per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37	Size of Timber	No. of Hang. as required see page 37
8	5x12 8x10	103 121	5x12 10x10	103 133	5x14 6x12	105 112	5x14 8x12	105 122	5x14 8x12	106 122	6x14 10x12	115 136	8x14 10x12	125 136	8x14 12x12	125 153	8x14 12x12	126 153
10	5x14 8x12	104 122	6x14 10x12	113 134	8x14 12x12	124 152	6x16 10x14	118 139	8x16 10x14	129 139	8x16 12x14	129 157	8x16 12x14	130 157	10x16 14x14	146 178	10x16	147
12	6x16 10x14	116 137	8x16 12x14	128 155	10x16 14x14	145 177	10x16	145	12x16	163	12x18 14x16	171 185	12x18 14x16	172 186	12x18	170	12x18	173
14	10x16 14x14	144 176	12x16	162	12x18 14x16	170 184	12x18	171	14x18	192	14x18	193						
16	12x18 14x16	169 183	12x18	170	14x18	192												
18	14x18	192																

Timber table No. 6
Total load = 80 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37	Size of Timber	No. of Hang. as required See page 37
8	5x12 8x10	103 121	5x14 6x12	105 112	5x14 8x12	105 122	5x14 8x12	106 122	6x14 10x12	115 136	8x14 10x12	125 136	8x14 12x12	125 153	6x16 8x14	119 126	10x14	140
10	6x14 10x12	113 134	8x14 12x12	124 135	6x16 10x14	117 138	8x16 10x14	129 139	8x16 12x14	129 157	10x16 14x14	146 178	10x16 14x14	146 178	12x16	164	12x16	164
12	8x16 10x14	128 138	8x16 12x14	128 155	10x16 14x14	145 177	12x16	163	12x18 14x16	171 185	12x18	172	12x18	172	14x18	194	14x18	194
14	12x16	161	12x18 14x16	170 184	12x18	171	14x18	192										
16	12x18	170	14x18	192														

Timber Table No. 7
Total load = 90 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37
8	5x12 10x10	103 133	5x14 8x12	105 122	5x14 8x12	106 122	6x14 10x12	115 136	8x14 10x12	125 136	8x14 12x12	126 153	8x14	126	10x14	140	8x16 10x14	131 141
10	8x14 10x12	123 134	6x16 8x14	117 124	8x16 10x14	129 139	8x16 12x14	129 157	10x16 14x14	146 178	10x16 14x14	147 179	12x16	164	12x16	164	12x18 14x16	173
12	8x16 12x14	128 155	10x16 14x14	145 177	12x16	163	12x18 14x16	171 185	12x18	172	12x18	172	14x18	194	14x18	194		
14	12x16	162	12x18	171	12x18	171	14x18	193										
16	12x18	170																

Timber table No. 8
Total load = 100 lbs per sq ft

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37	Size of Timber	No. of Hang-ers required See page 37
8	5x14 6x12	105 112	5x14 8x12	105 122	6x14 10x12	114 135	8x14 10x12	125 136	8x14 12x12	125 153	6x16 8x14	119 126	6x16 10x14	119 141	8x16 10x14	131 141	8x16 12x14	131 158
10	8x14 12x12	124 152	6x16 10x14	118 139	8x16 12x14	129 139	8x16 12x14	130 140	10x16 14x14	146 177	12x16	164	12x16	164	12x18 14x16	173 187	12x18 14x16	173 187
12	8x16 12x14	128 155	10x16	145	12x16	163	12x18 14x16	172 186	12x18	172	14x18	194	14x18	194				
14	12x18 14x16	170 184	12x18	171	14x18	193												
16	14x18	192																

Timber table No. 9
Total load = 125 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37
8	5x14 8x12	105 122	6x14 10x12	115 136	8x14 12x12	125 153	6x16 8x14	119 126	10x14	140	8x16 10x14	131 140	8x16 12x14	132 159	10x16 12x14	149 159	10x16 14x14	149 180
10	6x16 10x14	118 139	8x16 12x14	129 157	10x16 14x14	146 178	10x16	147	12x16	164	12x18 14x16	173 187	12x18	174	12x18	174	14x18	195
12	10x16	145	12x18 14x16	171 185	12x18	172	12x18	173	14x18	194								
14	12x18	171	14x18	193														

Timber table No. 10
Total load = 150 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37
8	6x14 10x12	114 135	8x14 12x12	125 153	6x16 8x14	119 126	8x16 10x14	131 141	8x16 12x14	131 158	10x16 12x14	149 159	10x16 14x14	149 180	10x16	150	12x16	167
10	8x16 12x14	129 156	10x16 14x14	146 178	12x16	164	12x16	165	12x18 14x16	173 187	12x18	174	12x18	174				
12	12x16	163	12x18	193	14x18	194												
14	14x18	193																

Timber table No. 11
Total load = 200 lbs. per sq. ft.

Span in feet	Timber spaced 8 ft. centers		Timber spaced 10 ft. centers		Timber spaced 12 ft. centers		Timber spaced 14 ft. centers		Timber spaced 16 ft. centers		Timber spaced 18 ft. centers		Timber spaced 20 ft. centers		Timber spaced 22 ft. centers		Timber spaced 24 ft. centers	
	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37	Size of Timber	No. of Hangers required see page 37
8	8x14 12x12	125 133	6x16 10x14	119 140	8x16 12x14	131 158	10x16 14x14	149 180	10x16 14x14	150 181	12x16	167						
10	10x16 14x14	146 178	12x16	165	12x18 14x16	173 187	12x18	174	14x18	195								
12	12x18	172	14x18	194														

COLUMBIAN-CLEVELAND JOIST AND TIMBER HANGERS

List prices are placed opposite only such sizes as are carried in stock and considered regular. Quotations made, upon application, for other sizes listed, and also special sizes or shapes. All Hangers are made ¼ inch scant to allow for surfacing; for example, Hangers for 2 x 10 Joists are made 2 x 9¾. Hangers with longer arms than those herein given can be supplied at a small additional charge. The sizes are numbered for convenience in ordering; also, to indicate proper Hanger for safe strength required, as recommended in tables. Double Hangers 2½ times the list of Single.

JOIST HANGERS

Number of Hanger	Size of Joist	Length of Arms, Inches	Size of Stock	Safe Strength in Lbs., Each Hanger	List Price	Number of Hanger	Size of Joist	Length of Arms, Inches	Size of Stock	Safe Strength in Lbs., Each Hanger	Price List
1	2 x 6	2	2 x ⅛	5,000	$0 20	23	2½ x 14	2	2½ x 3/16	9,380	$0 40
2	2 x 8	2	2 x ⅛	5,000	24	24	2½ x 14	2	2¾ x 3/16	10,320	....
3	2 x 10	2	2 x 3/16	7,500	27	25	2½ x 14	2	3 x 3/16	11,300	....
4	2 x 10	2	2½ x 3/16	9,380	....	26	2½ x 16	2	2½ x 3/16	9,380	43
5	2 x 12	2	2 x 3/16	7,500	29	27	2½ x 16	2	2¾ x 3/16	10,320	....
6	2 x 12	2	2¼ x 3/16	8,440	....	28	2½ x 16	2	3 x 3/16	11,300	....
7	2 x 12	2	2½ x 3/16	9,380	....	29	3 x 6	2	2¼ x 3/16	8,440	30
8	2 x 12	2	2¾ x 3/16	10,320	....	30	3 x 8	2	2¼ x 3/16	8,440	33
9	2 x 14	2	2¼ x 3/16	8,440	35	31	3 x 10	2	2¼ x 3/16	8,440	35
10	2 x 14	2	2½ x 3/16	9,380	....	32	3 x 12	2	2¼ x 3/16	8,440	36
11	2 x 14	2	2¾ x 3/16	10,320	....	33	3 x 14	2	2½ x 3/16	9,380	41
12	2 x 14	2	3 x 3/16	11,300	....	34	3 x 16	2	2½ x 3/16	9,380	44
13	2 x 16	2	2½ x 3/16	9,380	39	35	3 x 16	2	2¾ x 3/16	10,320	....
14	2 x 16	2	2¾ x 3/16	10,320	....	36	4 x 6	2	2½ x 3/16	9,380	35
15	2 x 16	2	3 x 3/16	11,300	....	37	4 x 8	2	2½ x 3/16	9,380	36
16	2½ x 6	2	2¼ x 3/16	8,440	29	38	4 x 10	2	2½ x 3/16	9,380	40
17	2½ x 8	2	2¼ x 3/16	8,440	33	39	4 x 12	2	2½ x ¼	12,500	48
18	2½ x 10	2	2¼ x 3/16	8,440	34	40	4 x 14	2	2½ x ¼	12,500	51
19	2½ x 12	2	2¼ x 3/16	8,440	35	41	4 x 16	2	2½ x ¼	12,500	54
20	2½ x 12	2	2½ x 3/16	9,380	....	42	4 x 16	2	2¾ x ¼	13,800	....
21	2½ x 12	2	2¾ x 3/16	10,320	....	43	4 x 16	2	3 x ¼	15,000	....
22	2½ x 12	2	3 x 3/16	11,300	....	Double Hangers 2½ times the List of Single					

TIMBER HANGERS

No. of Hanger	Size of Timber	Length of Arm, Inches	Size of Stock	Safe Strength in Lbs., Each Hanger	List Price	No. of Hanger	Size of Timber	Length of Arm, Inches	Size of Stock	Safe Strength in Lbs., Each Hanger	List Price	No. of Hanger	Size of Timber	Length of Arm, Inches	Size of Stock	Safe Strength in Lbs., Each Hanger	List Price
101	5 x 8	3	3 x ¼	15,000	$0 60	133	10 x 10	3	3 x ⅜	22,500	$1 06	165	12 x 16	6	5 x 7/16	43,800	$....
102	5 x 10	3	3 x ¼	15,000	64	134	10 x 12	3	3 x ⅜	22,500	1 12	166	12 x 16	5	6 x 7/16	52,500	....
103	5 x 12	3	3 x ¼	15,000	66	135	10 x 12	4	3 x ⅜	22,500	....	167	12 x 16	6	6 x 7/16	52,500	....
104	5 x 14	3	3 x ¼	15,000	69	136	10 x 12	4	4 x ⅜	30,000	....	168	12 x 18	3	3 x 7/16	26,300	1 45
105	5 x 14	3	4 x ¼	20,000	....	137	10 x 14	3	3 x ⅜	22,500	1 16	169	12 x 18	4	3 x 7/16	26,300	....
106	5 x 14	3	5 x ¼	25,000	....	138	10 x 14	4	3 x ⅜	22,500	....	170	12 x 18	4	4 x 7/16	35,000	....
107	5 x 16	3	3 x ¼	15,000	72	139	10 x 14	4	4 x ⅜	30,000	....	171	12 x 18	5	4 x 7/16	35,000	....
108	5 x 16	3	4 x ¼	20,000	....	140	10 x 14	5	4 x ⅜	30,000	....	172	12 x 18	5	5 x 7/16	43,800	....
109	5 x 16	3	5 x ¼	25,000	....	141	10 x 14	5	5 x ⅜	37,500	....	173	12 x 18	6	5 x 7/16	43,800	....
110	6 x 8	3	3 x ¼	15,000	68	142	10 x 14	6	5 x ⅜	37,500	....	174	12 x 18	6	6 x 7/16	52,500	....
111	6 x 10	3	3 x ¼	15,000	70	143	10 x 16	3	3 x ⅜	22,500	1 20	175	14 x 14	3	3 x ½	30,000	1 60
112	6 x 12	3	3 x ¼	15,000	74	144	10 x 16	4	3 x ⅜	22,500	....	176	14 x 14	4	3 x ½	30,000	....
113	6 x 14	3	3 x ¼	15,000	78	145	10 x 16	4	4 x ⅜	30,000	....	177	14 x 14	4	4 x ½	40,000	....
114	6 x 14	3	4 x ¼	20,000	....	146	10 x 16	5	4 x ⅜	30,000	....	178	14 x 14	5	4 x ½	40,000	....
115	6 x 14	3	5 x ¼	25,000	....	147	10 x 16	5	5 x ⅜	37,500	....	179	14 x 14	5	5 x ½	50,000	....
116	6 x 16	3	3 x ¼	15,000	82	148	10 x 16	6	5 x ⅜	37,500	....	180	14 x 14	6	5 x ½	50,000	....
117	6 x 16	3	4 x ¼	20,000	....	149	10 x 16	5	6 x ⅜	45,000	....	181	14 x 14	6	6 x ½	60,000	....
118	6 x 16	3	5 x ¼	25,000	....	150	10 x 16	6	6 x ⅜	45,000	....	182	14 x 16	3	3 x ½	30,000	1 65
119	6 x 16	3	6 x ¼	30,000	....	151	12 x 12	3	3 x 7/16	26,300	1 30	183	14 x 16	4	3 x ½	30,000	....
120	8 x 8	3	3 x 5/16	18,800	85	152	12 x 12	4	3 x 7/16	26,300	....	184	14 x 16	4	4 x ½	40,000	....
121	8 x 10	3	3 x 5/16	18,800	88	153	12 x 12	5	4 x 7/16	35,000	....	185	14 x 16	5	4 x ½	40,000	....
122	8 x 12	3	3 x 5/16	18,800	90	154	12 x 14	3	3 x 7/16	26,300	1 35	186	14 x 16	5	5 x ½	50,000	....
123	8 x 14	3	3 x 5/16	18,800	95	155	12 x 14	4	3 x 7/16	26,300	....	187	14 x 16	6	5 x ½	50,000	....
124	8 x 14	4	3 x 5/16	18,800	....	156	12 x 14	4	4 x 7/16	35,000	....	188	14 x 16	6	6 x ½	60,000	....
125	8 x 14	4	4 x 5/16	25,000	....	157	12 x 14	5	4 x 7/16	35,000	....	189	14 x 18	3	3 x ½	30,000	1 75
126	8 x 14	4	5 x 5/16	31,300	....	158	12 x 14	5	5 x 7/16	43,800	....	190	14 x 18	4	3 x ½	30,000	....
127	8 x 16	3	3 x 5/16	18,800	99	159	12 x 14	6	5 x 7/16	43,800	....	191	14 x 18	4	4 x ½	40,000	....
128	8 x 16	4	3 x 5/16	18,800	....	160	12 x 16	3	3 x 7/16	26,300	1 40	192	14 x 18	5	4 x ½	40,000	....
129	8 x 16	4	4 x 5/16	25,000	....	161	12 x 16	4	3 x 7/16	26,300	....	193	14 x 18	5	5 x ½	50,000	....
130	8 x 16	4	5 x 5/16	31,300	....	162	12 x 16	4	4 x 7/16	35,000	....	194	14 x 18	6	5 x ½	50,000	....
131	8 x 16	4	6 x 5/16	37,500	....	163	12 x 16	5	4 x 7/16	35,000	....	195	14 x 18	6	6 x ½	60,000	....
132	8 x 16	5	6 x 5/16	37,500	....	164	12 x 16	5	5 x 7/16	43,800	....	Double Hangers 2½ times the List of Single					

COLUMBIAN-CLEVELAND WALL HANGERS

These Hangers are furnished without Wall Plates, unless otherwise specified. Wall Plates supplied, if desired, cut out of steel angles, 3 x 2 x $\frac{5}{16}$, and riveted to the arms. Longer arms can be supplied than regular 4¼ inches, if conditions require. Flat steel-bearing plates can be placed under the arms to rest on wall.

Number of Hanger	Size of Hanger	Size of Joist or Timber	Size of Stock	Safe Strength in Lbs. Each Hanger	List Price Without Wall Plates
301	2 x 7½	2 x 6 2 x 8 2 x 10	2½ x $\frac{3}{16}$	9,380	$0 30
302	2 x 7½	2 x 12 2 x 14 2 x 16	3 x $\frac{3}{16}$	11,300	33
303	2½ x 7½	2½ x 6 2½ x 8 2½ x 10	2½ x $\frac{3}{16}$	9,380	36
304	2½ x 7½	2½ x 12 2½ x 14 2½ x 16	3 x $\frac{3}{16}$	11,300	39
305	3 x 7½	3 x 6 3 x 8 3 x 10 3 x 12 3 x 14	2½ x $\frac{3}{16}$	9,380	39
306	3 x 7½	3 x 16	3 x $\frac{3}{16}$	11,300	45
307	4 x 7½	4 x 6 4 x 8 4 x 10 4 x 12 4 x 14 4 x 16	2½ x ¼	12,500	55
308	5 x 7½	5 x 8 5 x 10 5 x 12	3 x ¼	15,000	$0 68
309	5 x 7½	5 x 14 5 x 16	5 x ¼	25,000	....
310	6 x 7½	6 x 8 6 x 10 6 x 12	3 x ¼	15,000	90
311	6 x 7½	6 x 14	5 x ¼	25,000	....
312	6 x 7½	6 x 16	6 x ¼	30,000	....
313	8 x 7½	8 x 8 8 x 10 8 x 12	3 x $\frac{5}{16}$	18,800	1 00
314	8 x 7½	8 x 14	5 x $\frac{5}{16}$	31,300	....
315	8 x 7½	8 x 16	6 x $\frac{5}{16}$	37,500	....
316	10 x 8½	10 x 10	3 x ⅜	22,500	1 10
317	10 x 8½	10 x 12	4 x ⅜	30,000	....
318	10 x 8½	10 x 14	5 x ⅜	37,500	....
319	10 x 8½	10 x 16	6 x ⅜	45,000	....
320	12 x 8½	12 x 12	4 x $\frac{7}{16}$	35,000	....
321	12 x 8½	12 x 14	5 x $\frac{7}{16}$	43,800	....
322	12 x 8½	12 x 16 12 x 18	6 x $\frac{7}{16}$	52,500	....
323	14 x 8½	14 x 14 14 x 16 14 x 18	6 x ½	60,000	....

BUCKEYE

JOIST, WALL AND TIMBER HANGERS

THE BUCKEYE'S sole purpose is to meet the demand for Joist, Wall and Timber Hangers of a lighter material than our well-known "Cleveland" Hanger. Although lighter, it still has all the desirable features, and is equal proportionately in strength.

SOME OF THE DESIRABLE FEATURES:—It requires no boring of holes to be fitted; therefore does not weaken the joist.

The "Buckeye" is made in the same manner as the "Cleveland." It is hot-forged from a refined, superior grade of steel, and coated with asphaltum to prevent rusting. Being made in this manner, and of bar steel of the same thickness throughout, there is no possibility of there being weak spots or deficiencies.

The long, even, gradual bends assist in distributing the weight evenly. If the timber is supporting an extra heavy load and bends slightly, throwing the weight on the front part of the seat or toe of hanger, these long, even bends assist in sustaining the weight, as they are in a direct line from the point of support to seat of joist.

The Buckeye Hangers are made in three different styles — Joist, Wall and Timber Hangers. Pages 2 and 3 illustrate the many ways they are used.

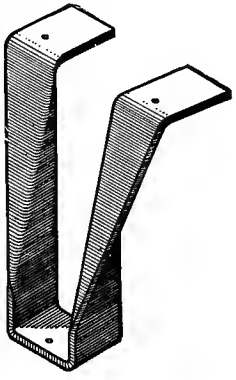
The Columbian Hardware Company

CLEVELAND, OHIO

168 Church Street
NEW YORK

SAN FRANCISCO

26 Lake Street
CHICAGO



Buckeye Single Straight Arm Joist Hanger

Fig. A. — The long, even, diagonal bends of the Ohio Hanger form a web member in direct line of strain from seat of joist to point of support, and with the face web against the joist, presenting a uniform section, thus insuring a constant resistance.

Buckeye Single Straight Arm Joist Hanger

in position ready for use

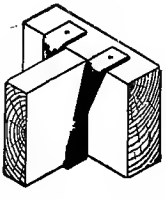
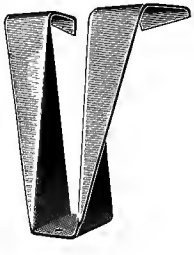


Fig. B. — Ohio Hangers are easily applied, even by unskilled workmen, a few blows with the mallet doing the work. They do not weaken the timber, no boring of holes or fitting being required.



Buckeye Single Joist Hanger Hook Arms

Fig. C. — The Hook Arm Joist Hanger has arms that extend back across the beam and hook on opposite side, or being beveled, can be driven into the timber, making them more secure.

Buckeye Double Joist Hanger

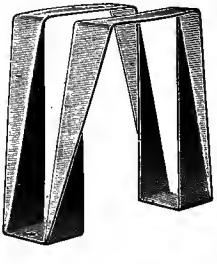
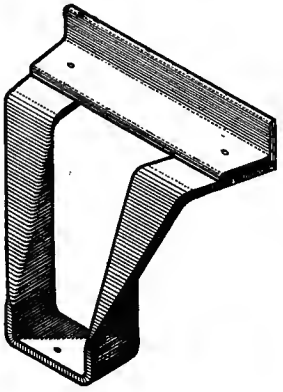


Fig. D. — Double Hangers are used where joists are suspended from both sides of the timber, with ends opposite one another. It is practically two single hangers, and can be used to advantage.



Buckeye Wall Hanger with Angle Plate

FIG. E.—Buckeye Wall Hangers with angle plates are used in brick or stone walls, the angle plate attachment acts as a hook arm joist hanger, but is more effective, because it catches behind a line of bricks instead of only two, as would be the case if a hook arm hanger were used.

Buckeye Straight Arm Wall Hanger

in position

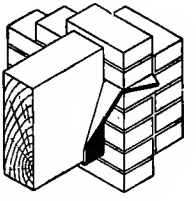
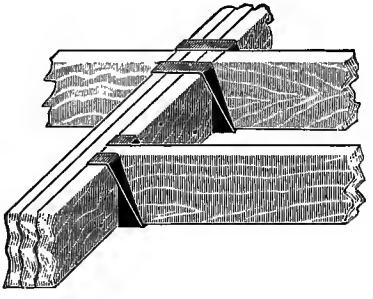


FIG. F.—Buckeye Wall Hangers are regularly furnished with straight arms, unless otherwise specified. Longer arms can be supplied, and we can make the hangers with bearing plates if desired.



Buckeye Single and Double Timber Hangers

in position

FIG. G.—Joist and Timber Hangers are the same in appearance as far as shape is concerned, but different in size. This cut shows the single and double hangers in position.

One of the many Irregular Forms of the Buckeye Joist and Timber Hanger

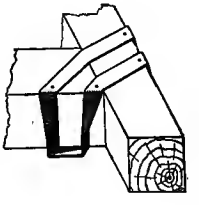


FIG. H.—One of the many irregular forms of hangers we have made. Prices quoted on all styles and shapes. Write and ask more about them.

Buckeye Joist, Wall and Timber Hangers

ARE MADE AND SOLD BY THE FOLLOWING SCALE

Number of Hanger	Size of Hanger	Length of Arm	Size of Stock Used	List Prices
500	2 x 6	2	$1\frac{1}{2}$x$\frac{5}{64}$	$ .12
501	2 x 8	2	2 x$\frac{5}{64}$	.16
502	2 x10	2	$2\frac{1}{2}$x$\frac{5}{64}$	.19
503	2 x12	$2\frac{3}{4}$	3 x$\frac{5}{64}$	.20
504	2 x14	$3\frac{3}{4}$	$3\frac{1}{2}$x$\frac{5}{64}$	.25
505	2 x16	$3\frac{3}{4}$	4 x$\frac{5}{64}$	.30
506	$2\frac{1}{2}$x 6	$2\frac{3}{8}$	$1\frac{1}{2}$x$\frac{3}{32}$	.18
507	$2\frac{1}{2}$x 8	$2\frac{3}{8}$	2 x$\frac{3}{32}$	.22
508	$2\frac{1}{2}$x10	$2\frac{3}{8}$	$2\frac{1}{2}$x$\frac{3}{32}$	.30
509	$2\frac{1}{2}$x12	$2\frac{7}{8}$	3 x$\frac{3}{32}$	.35
510	$2\frac{1}{2}$x14	$3\frac{3}{4}$	2 x$\frac{3}{16}$	.35
511	$2\frac{1}{2}$x16	$3\frac{3}{4}$	4 x$\frac{1}{8}$	.45
512	3 x 6	$2\frac{3}{4}$	$1\frac{1}{2}$x$\frac{1}{8}$	.22
513	3 x 8	$2\frac{3}{4}$	2 x$\frac{1}{8}$	.25
514	3 x10	$2\frac{3}{4}$	$2\frac{1}{2}$x$\frac{1}{8}$	.28
515	3 x12	$2\frac{7}{8}$	2 x$\frac{3}{16}$	.30
516	3 x14	$3\frac{3}{4}$	$2\frac{1}{4}$x$\frac{3}{16}$	.35
517	3 x16	$3\frac{3}{4}$	$2\frac{1}{2}$x$\frac{3}{16}$	.40
518	4 x 6	2	$1\frac{1}{2}$x$\frac{1}{8}$	.25
519	4 x 8	2	2 x$\frac{1}{8}$	.35
520	4 x10	$2\frac{7}{8}$	$2\frac{1}{2}$x$\frac{1}{8}$	.40
521	4 x12	$2\frac{7}{8}$	2 x$\frac{3}{16}$	.40
522	4 x14	$3\frac{3}{4}$	$2\frac{1}{2}$x$\frac{3}{16}$	.45
523	4 x16	$3\frac{3}{4}$	3 x$\frac{3}{16}$	.55
524	5 x 8	$2\frac{7}{8}$	2 x$\frac{5}{32}$	.45
525	5 x10	$2\frac{7}{8}$	2 x$\frac{3}{16}$	.50
526	5 x12	$3\frac{3}{4}$	$2\frac{1}{4}$x$\frac{3}{16}$	.55
527	5 x14	$3\frac{3}{4}$	3 x$\frac{3}{16}$	.60
528	5 x16	$3\frac{3}{4}$	$3\frac{1}{2}$x$\frac{3}{16}$	.70
529	6 x 8	$3\frac{3}{4}$	2 x$\frac{5}{32}$	.50
530	6 x10	$3\frac{3}{4}$	2 x$\frac{3}{16}$	.60
531	6 x12	$3\frac{3}{4}$	3 x$\frac{3}{16}$	.70
532	6 x14	$3\frac{3}{4}$	$3\frac{1}{2}$x$\frac{3}{16}$	.75
533	6 x16	$3\frac{3}{4}$	4 x$\frac{3}{16}$	.85
534	8 x 8	$3\frac{3}{4}$	2 x$\frac{3}{16}$	.70
535	8 x10	$4\frac{3}{4}$	$2\frac{1}{2}$x$\frac{3}{16}$	.80
536	8 x12	$4\frac{3}{4}$	$3\frac{1}{2}$x$\frac{3}{16}$	.85
537	8 x14	$4\frac{3}{4}$	4 x$\frac{3}{16}$	.95
538	8 x16	$4\frac{3}{4}$	$4\frac{1}{2}$x$\frac{3}{16}$	1.05
539	10 x10	$4\frac{3}{4}$	3 x$\frac{3}{16}$	.95
540	10 x12	$5\frac{3}{4}$	3 x$\frac{1}{4}$	1.05
541	10 x14	$5\frac{3}{4}$	$3\frac{1}{2}$x$\frac{1}{4}$	1.15
542	10 x16	$5\frac{3}{4}$	4 x$\frac{5}{16}$	1.35
543	12 x12	$5\frac{3}{4}$	$3\frac{1}{2}$x$\frac{1}{4}$	1.15
544	12 x14	$5\frac{3}{4}$	$3\frac{1}{2}$x$\frac{5}{16}$	1.25
545	12 x16	$5\frac{3}{4}$	$4\frac{1}{2}$x$\frac{5}{16}$	1.60
546	12 x18	$5\frac{3}{4}$	$4\frac{1}{2}$x$\frac{5}{16}$	1.75
547	14 x14	$5\frac{3}{4}$	$3\frac{1}{2}$x$\frac{3}{8}$	1.50
548	14 x16	$5\frac{3}{4}$	4 x$\frac{3}{8}$	1.80
549	14 x18	$5\frac{3}{4}$	4 x$\frac{3}{8}$	1.90
550	16 x16	$5\frac{3}{4}$	4 x$\frac{1}{2}$	2.50
551	16 x18	$5\frac{3}{4}$	4 x$\frac{1}{2}$	2.60

DOUBLE HANGERS $2\frac{1}{2}$ TIMES LIST OF SINGLE